

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application: Dependent claims 21 and 22 have been amended, and new dependent claim 56 has been added to the application, without introducing any new matter. Claims 25-55 have been withdrawn, as directed to a non-elected invention.

Claim 1 (original): A photomask assembly comprising a photomask substrate, a porous frame, and a pellicle, wherein the porous frame has a gas permeability to oxygen or nitrogen higher than about 10 ml.mm/cm².min.MPa, an average pore size between 0.001 micrometer and 10 micrometers, and a coefficient of thermal expansion between 0.01 ppm/°C and 10 ppm/°C.

Claim 2 (original): A photomask assembly as defined in claim 1, wherein the porous frame has a gas permeability to oxygen or nitrogen higher than about 40 ml.mm/cm².min.MPa.

Claim 3 (original): A photomask assembly as defined in claim 1, wherein the porous frame has a gas permeability to oxygen or nitrogen higher than about 70 ml.mm/cm².min.MPa.

Claim 4 (original): A photomask assembly as defined in claim 1, wherein the porous frame has an average pore size between 0.01 micrometer and 1 micrometer.

Claim 5 (original): A photomask assembly as defined in claim 1, wherein the porous frame has an average pore size between 0.08 micrometer and 1 micrometer.

Claim 6 (original): A photomask assembly as defined in claim 1, wherein the porous frame has a coefficient of thermal expansion between 0.1 ppm/°C and 1 ppm/°C.

Claim 7 (original): A photomask assembly as defined in claim 1, wherein the porous frame has a coefficient of thermal expansion between 0.3 ppm/°C and 0.7 ppm/°C.

Claim 8 (original): A photomask assembly as defined in claim 1, wherein the porous frame is attached to a photomask substrate and/or a hard pellicle, and wherein the porous frame has a coefficient of thermal expansion that matches that of the photomask substrate and/or the hard pellicle within $\pm 20\%$.

Claim 9 (original): A photomask assembly as defined in claim 1, wherein the porous frame has surface flatness less than about 20 micrometers.

Claim 10 (original): A photomask assembly as defined in claim 1, wherein the porous frame has a surface flatness less than about 5 micrometers.

Claim 11 (original): A photomask assembly as defined in claim 1, wherein the porous frame has a surface flatness less than about 1 micrometer.

Claim 12 (original): A photomask assembly as defined in claim 1, wherein the porous frame has a pore surface area larger than $10 \text{ m}^2/\text{g}$.

Claim 13 (original): A photomask assembly as defined in claim 1, wherein the porous frame has a pore surface area larger than $25 \text{ m}^2/\text{g}$.

Claim 14 (original): A photomask assembly as defined in claim 1, wherein the porous frame has a pore surface area larger than $70 \text{ m}^2/\text{g}$.

Claim 15 (original): A photomask assembly as defined in claim 1, wherein the porous frame has an elastic modulus higher than 1 GPa.

Claim 16 (original): A photomask assembly as defined in claim 1, wherein the porous frame has an elastic modulus higher than 5 GPa.

Claim 17 (original): A photomask assembly as defined in claim 1, wherein the porous frame has an elastic modulus higher than 10 GPa.

Claim 18 (original): A photomask assembly as defined in claim 1, wherein the porous frame has a modulus of rupture higher than 1 MPa.

Claim 19 (original): A photomask assembly as defined in claim 1, wherein the porous frame has a modulus of rupture higher than 5 MPa.

Claim 20 (original): A photomask assembly as defined in claim 1, wherein the porous frame has a modulus of rupture higher than 10 MPa.

Claim 21 (currently amended): A photomask assembly as defined in claim 1, wherein the porous frame is configured to scavenge ~~certain~~ harmful chemicals in an amount higher than 0.01 weight percent of the material of the porous frame.

Claim 22 (currently amended): A photomask assembly as defined in claim 1, wherein the porous frame is configured to scavenge ~~certain~~ harmful chemicals in an amount higher than 0.05 weight percent of the material of the porous frame.

Claim 23 (original): A photomask assembly as defined in claim 1, wherein the porous frame is formed of a material selected from the group consisting of silica, fluorinated silica, ZrO_2 , Al_2O_3 , $\text{SiO}_2 - \text{Al}_2\text{O}_3$, $\text{SiO}_2 - \text{B}_2\text{O}_3$, and mixtures thereof.

Claim 24 (original): A photomask assembly as defined in claim 1, wherein the porous frame is formed of a material selected from the group consisting of silica and fluorinated silica having a purity of greater than about 96 weight percent silica.

Claims 25-55 (canceled).

Claim 56 (new): A photomask assembly as defined in claim 1, wherein the porous frame is free of any vent holes having a size larger than 50 micrometers.

Claim 57 (new): A photomask assembly as defined in claim 1, wherein the porous frame is free of any vent holes sized to allow the diffusion of particles larger than 10 micrometers.